

# I-95 New Haven Harbor Crossing Corridor Improvement Program



## CONNECTICUT CLEAN AIR CONSTRUCTION INITIATIVE

Air quality has a direct effect on human health and the environment. To help improve air quality in Greater New Haven, the Connecticut Department of Transportation (ConnDOT) is implementing new methods for reducing emissions during the I-95 New Haven Harbor Crossing (NHHC) Corridor Improvement Program.

### Benefits

During construction on the I-95 NHHC Corridor Improvement Program, equipment used on highway contracts will be part of a pilot emissions reduction program for the State of Connecticut. Several factors make the area and timing ideal for this initiative:

- Construction takes place along a densely-populated corridor. Reduced chemical and particulate emissions will benefit area residents and visitors, as well as laborers working near diesel engines.
- Construction will last for approximately 12 years. The emissions-reduction initiative will reduce the impact on air quality that would otherwise be associated with such a large-scale, long-term construction project.
- One of the nation's first emissions reduction programs is operating successfully on Boston's "Big Dig." ConnDOT is encouraged by Boston's results and is eager to implement a similar program in Connecticut.



### Implementation

ConnDOT is requiring all contractors and sub-contractors to take part in the Connecticut Clean Air Construction Initiative.

In summary, the following contractor requirements apply:

- Emission control devices (such as oxidation catalysts) and/or clean fuels (such as PuriNOx) are required for:
  - Diesel-powered construction equipment, with
  - Engine horsepower (HP) ratings of 60 HP and above, that are
  - On the project or assigned to the contract in excess of 30 days.
- Truck staging zones will be established for diesel-powered vehicles waiting to load or unload materials. The zones will be located where diesel emissions will have the least impact on abutters and the general public.
- Idling is limited to three minutes for delivery and dump trucks and other diesel-powered equipment (with some exceptions).
- All work will be conducted to ensure that no harmful effects are caused to adjacent sensitive receptors, such as schools, hospitals, and elderly housing.
- Diesel-powered engines will be located away from fresh air intakes, air conditioners, and windows.

Initial and monthly reporting by contractors will ensure the proper implementation of the Connecticut Clean Air Construction Initiative. Non-compliance will be enforced with a 24-hour notice to the contractor to improve a vehicle or remove it from a project.

To introduce this new program to area contractors, three informational meetings regarding clean fuels and equipment retrofitting were conducted in August and September, 2001. The sessions were attended by clean fuel vendors and equipment manufacturers who addressed concerns about equipment maintenance and warranties.



Excavator retrofitted with oxidation catalyst

### Cost

The cost of retrofitting equipment or using clean fuels is included in the general cost of the contract, as bid by each contractor. Whereas a contractor who owns equipment may be more likely to install the retrofit apparatus, one who rents equipment may opt to use clean fuels.

### Equipment Maintenance and Warranties

On Boston's "Big Dig", no adverse operational problems or additional maintenance costs have been reported for construction equipment retrofitted with oxidation catalysts. With proper installation, and as long as a system is not stressed beyond its design limitations, equipment warranties are not affected by installation of retrofit products.

### Results

EPA has identified emission control standards that will reduce emissions from diesel construction equipment. With the Connecticut Clean Air Construction Initiative, immediate air quality benefits will be realized through the use of emission control devices and clean fuels on existing construction equipment. Long-term air quality benefits will be realized as new construction equipment is purchased and put into use. Because existing construction equipment can operate for more than 20 years, it may be 20 or more years before the full benefits of EPA's standards are realized.

It has been estimated that on Boston's "Big Dig," emission reductions amount to 36 tons/year for carbon monoxide, 12 tons/year for hydrocarbons, and 3 tons/year for fine particulate matter. Estimates for reduced emissions during the I-95 NHHC Corridor Improvement Program are 20 tons/year for carbon monoxide and 2 tons/year for fine particulate matter (with clean fuels or oxidation catalysts) and 8 tons/year for hydrocarbons (with oxidation catalysts only).

### Looking Forward

With good maintenance, heavy machinery with diesel engines can operate for more than 30 years. Retrofitting an engine will cut the lifetime emissions from that engine to a small percentage of what it is today. The EPA, ConnDOT, and other local agencies support these measures in their dedication to improving the air quality in the State of Connecticut.

*This program was developed through collaboration between:*

- Connecticut Department of Transportation (ConnDOT)
- Connecticut Department of Environmental Protection (CT DEP)
- Northeast States for Coordinated Air Use Management (NESCAUM)
- Connecticut Department of Motor Vehicles (CT DMV)
- Connecticut Construction Industries Association (CCIA)

### Up-to-date Program Information

For the latest on the Program's progress and traffic information, visit the I-95 NHHC Corridor Improvement Program web site at [www.i95newhaven.com](http://www.i95newhaven.com) or call the Program construction hotline at 1-866-277-9595. For information on commuting alternatives, visit [www.rideworks.com](http://www.rideworks.com) or call 1-800-ALL-RIDE.

Donna Weaver, ConnDOT Environmental Planning, outlining regulations to Middlesex Corp. project staff

